Public Works

Recycling

October 15, 2013

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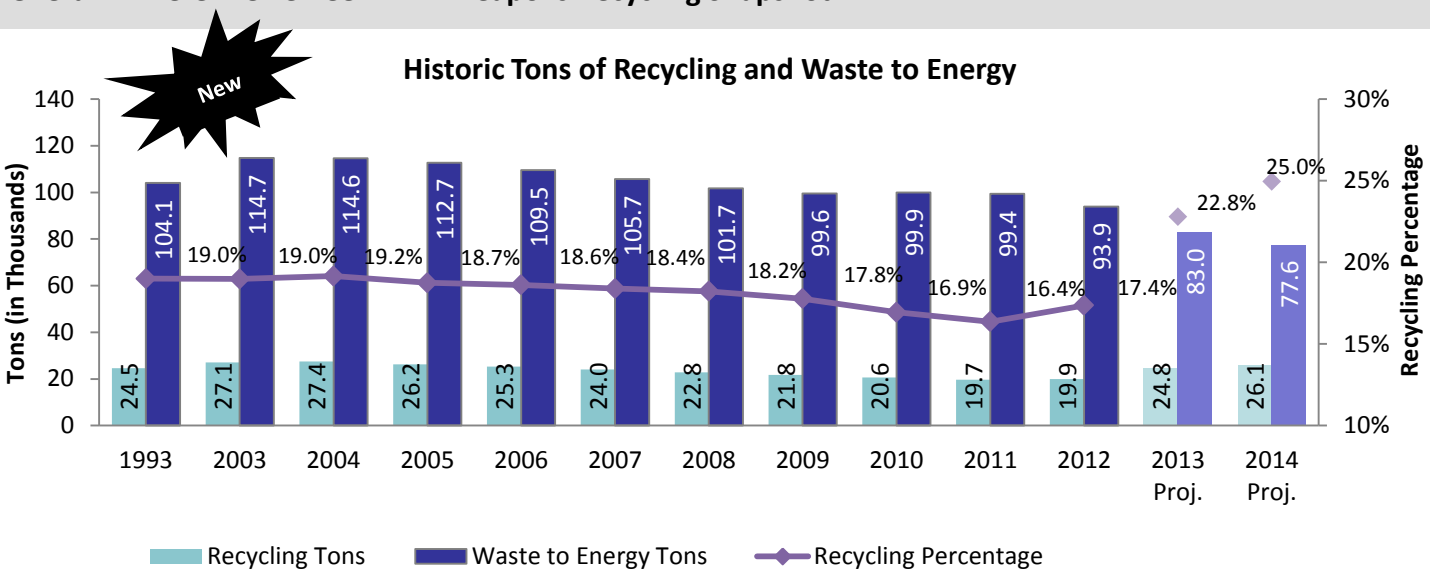
Public Works (Recycling)

Department is responsible for this Sustainability Measure and Target. Measures are part of the City's 26 Sustainability Indicators. For more information please visit http://www.ci.minneapolis.mn.us/sustainability/indicators/index.htm

Note: The 1st *Results Minneapolis* session for the year will focus on Departmental & Utilities measures and the 3rd *Results Minneapolis* on Transportation & Internal Services measures; The 2nd & 4th *Results Minneapolis* sessions for Public Works will be on Special Topics.

Overall: Where We've Been – Minneapolis Recycling Snapshot



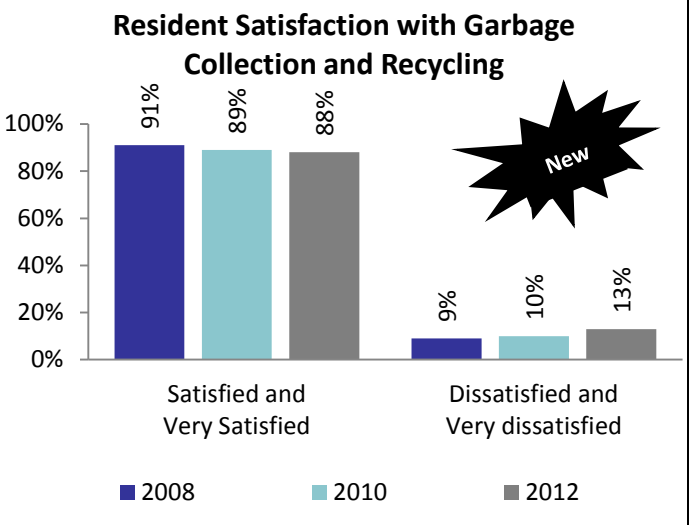
Source: Solid Waste Information System

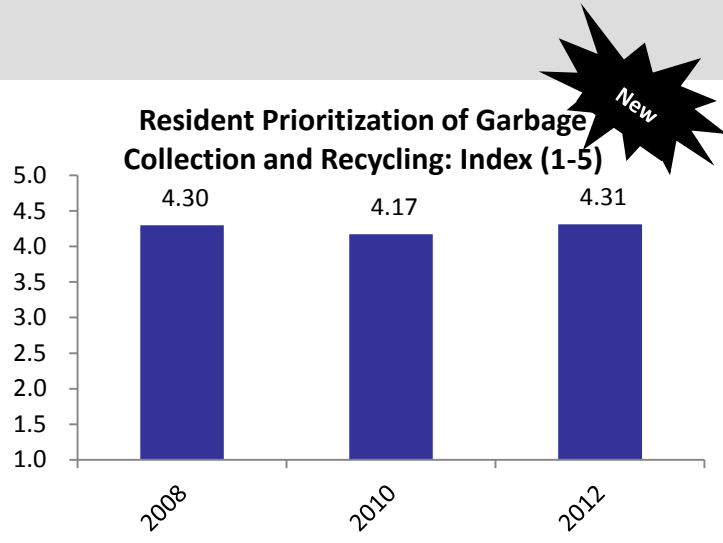
Minneapolis Solid Waste & Recycling provides services only for residential customers in buildings with four or fewer dwelling units. This represents about 65 percent of the city's residential units.

Minneapolis Solid Waste & Recycling began a city-wide residential recycling program in November 1989. The "Cash for your Trash" campaign encouraged residents to participate in the recycling program by offering a $5.00 credit to their City Utility Bill. The program accepted newspaper, food and beverage cans, glass bottles and jars, office paper, phone books and cardboard for recycling. Over the years, items have been added and removed from the recycling collection program. Some notable milestones in the City's recycling program include:

1990	Appliance and large metal items were added to collection.
1991	Plastics (jars, tubs, single-use microwave trays) were added to the recyclable list following a pilot in three neighborhoods.
1996	Plastics accepted reduced to #1 & #2 bottles and jugs due to limited markets.
2008	Organics pilots begin in Linden Hills Neighborhood.
2009	Organics pilots expand to the East Calhoun neighborhood and parts of six SE Minneapolis neighborhoods (Cooper, Hiawatha, Howe, Longfellow, Phillips and Seward).
2011	Dual-sort (containers & fibers) recycling pilot begins.
2012	Mattress collection begins, plastics #1 - #7 and cartons accepted. One-Sort roll-out began in November.
2013	Recycling credit removed due to One-Sort recycling implementation. One-Sort roll-out complete by mid-June. Organics collection option and impact study completed by contracted consultant.

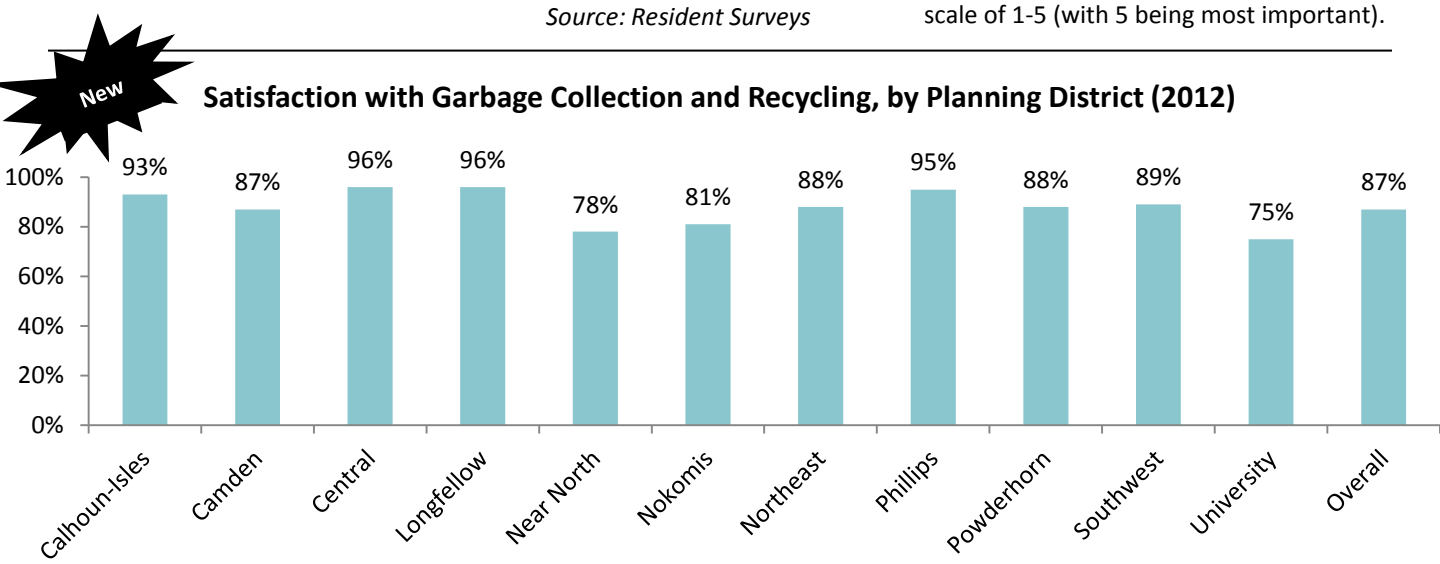
One-Sort Recycling was implemented to increase recycling rates that have remained relatively stagnant for the last 20 years. We've seen an increase in the overall recycling rate from 17.4 percent in 2012 to a year-to-date (Jan-Aug 2013) rate of 22 percent. The increase in recycling tonnages is directly reflected in the decrease in garbage tons meaning the One-Sort program has effectively encouraged residents to recycle more.





Note: Respondents are asked to rank the importance of a specified City service on a scale of 1-5 (with 5 being most important).

Source: Resident Surveys



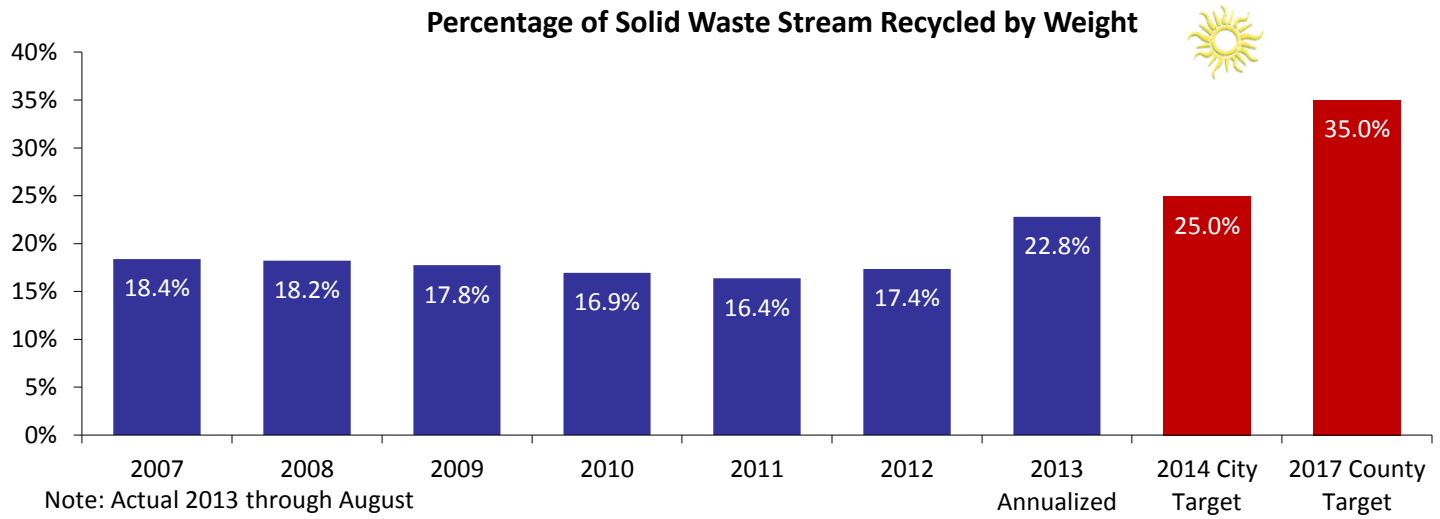
Source: 2012 Resident Survey

Why are these measures important?

These measures show that the overwhelming majority of city residents highly value their solid waste and recycling services and that their attitudes toward the quality of service have remained relatively consistent since 2008.

What will it take to make progress?

The satisfaction with Garbage Collection and Recycling by Planning District graph informs Solid Waste & Recycling of the areas where improvements can be made. It is possible that the residents surveyed in some of the areas do not in fact have Minneapolis Solid Waste & Recycling service and are responding to the survey based on a bad experience with a private waste hauler or that what the resident perceives as an issue is not in fact a service that Minneapolis Solid Waste & Recycling provides such as general litter cleanup along streets.



Why is this measure important?

The percentage of the solid waste stream that is recycled (tonnage) is important because it indicates the extent to which Minneapolis Solid Waste customers actively participate in recycling programs. It also gives guidance to efforts needed to meet upcoming diversion targets.

What will it take to achieve a target recycling percentage?

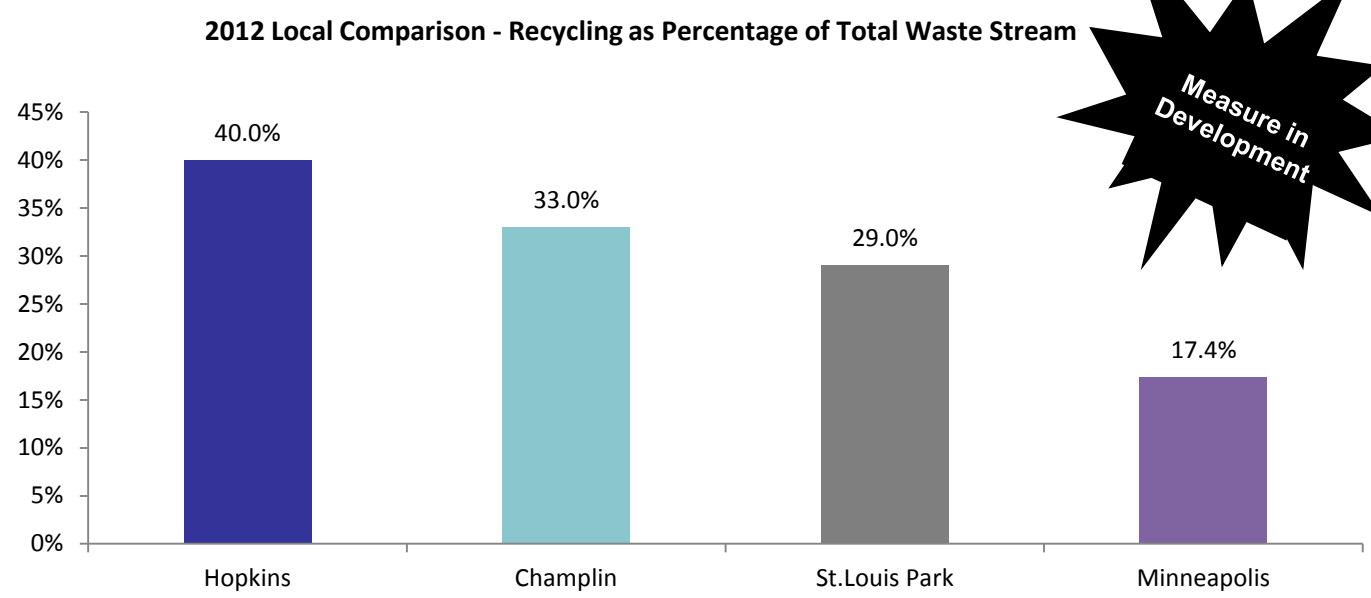
As expected, city-wide one-sort recycling has increased recycling volumes by making it easier to recycle and by providing residents with carts that have greater capacity in which to collect recyclables. The first two months of city-wide one-sort recycling resulted in an over a 50 percent increase in recycling volumes collected. It is anticipated that the 2013 target of 22.8 percent will be met if not surpassed.

Meeting the 2017 target will require educating residents to improve recycling knowledge and adding new items to the recycling program. Waste sorts will show the composition of residents' garbage and recycling and assess their knowledge of how to properly recycle. Increased public education through neighborhood newsletters, Council Member communications, Communications press releases, an updated Solid Waste & Recycling Division newsletter, giving presentations and staffing educational booths at neighborhood events will assist in reaching recycling the 2017 goal.

Recycling workshops, customized direct mailings, door-to-door educational campaigns and technical assistance will be utilized to greatly improve recycling in underperforming neighborhoods of the city. Educational efforts will be completed in partnership with Hennepin County staff and city residents who have completed Hennepin County's Master Recycler/Composter program.

Lastly, added product stewardship (PS) or extended producer responsibility (EPR) laws could require products be made for end of life disposal (recycling). By enacting PS or EPR laws, items would be made to be recycled and could be added as a recyclable item in the City's recycling program.

Actions above in addition to changing consumer habits through a city-wide organics program are anticipated to aid in the City meeting the 2017 recycling rate and decreasing garbage tonnages.



Note: The comparative cities were selected based on compatible recycling programs and data collection methods.
Source: Hennepin County

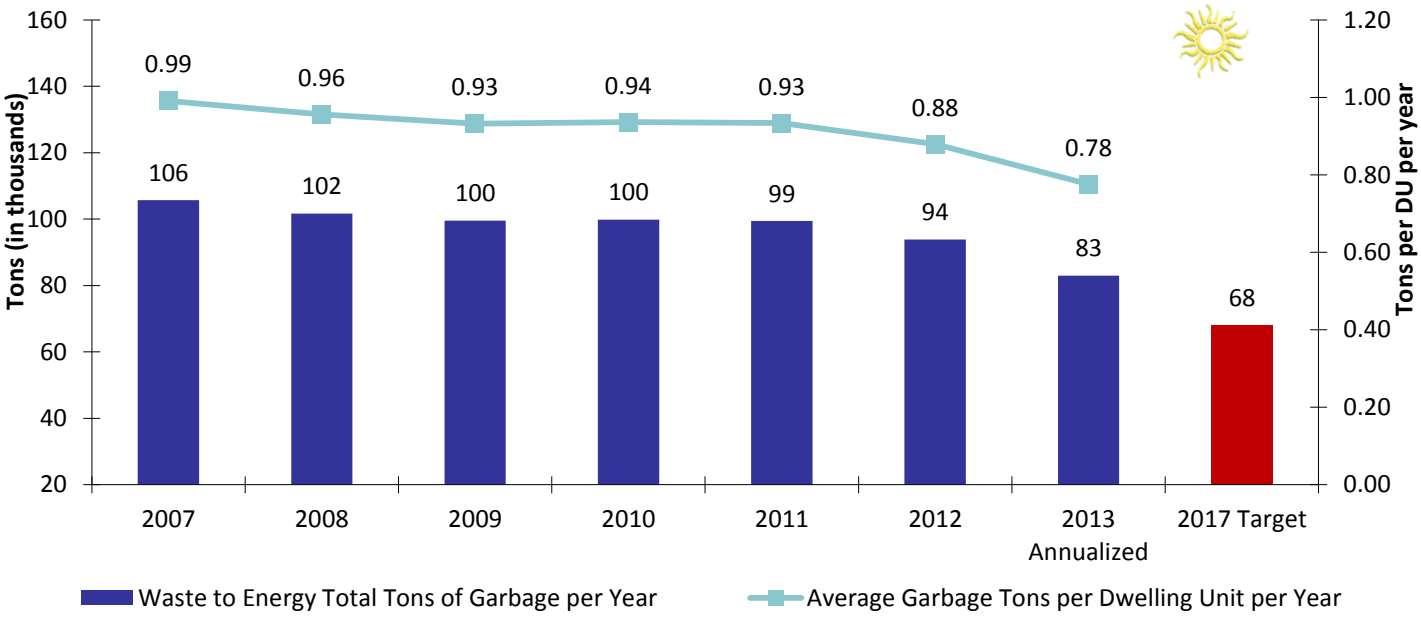
Why is this measure important:
It is important that Minneapolis compares itself to other cities where appropriate, to provide a measuring stick for how well we are performing. The chart above compares Minneapolis' 2012 recycling rate to the three other cities in Hennepin County that have the ability to calculate a recycling rate: Hopkins, Champlin and St. Louis Park.

Staff are currently analyzing reported recycling data in other cities across the country to find nation-wide comparisons. To date, Pittsburg, PA and Cleveland, OH have been identified as candidates for comparison. These cities have relatively the same populations, ethnic diversity and range of income levels and may prove to be excellent candidates for comparison with Minneapolis.

What will it take to make progress?
As Minneapolis and St. Louis Park have both recently transitioned to a one-sort recycling system, it will be interesting to continue to compare the City's improvement to another local community. St. Louis Park has also implemented an organics collection program which has the potential to increase its recycling rate significantly in the coming years by decreasing the quantity of garbage collected.

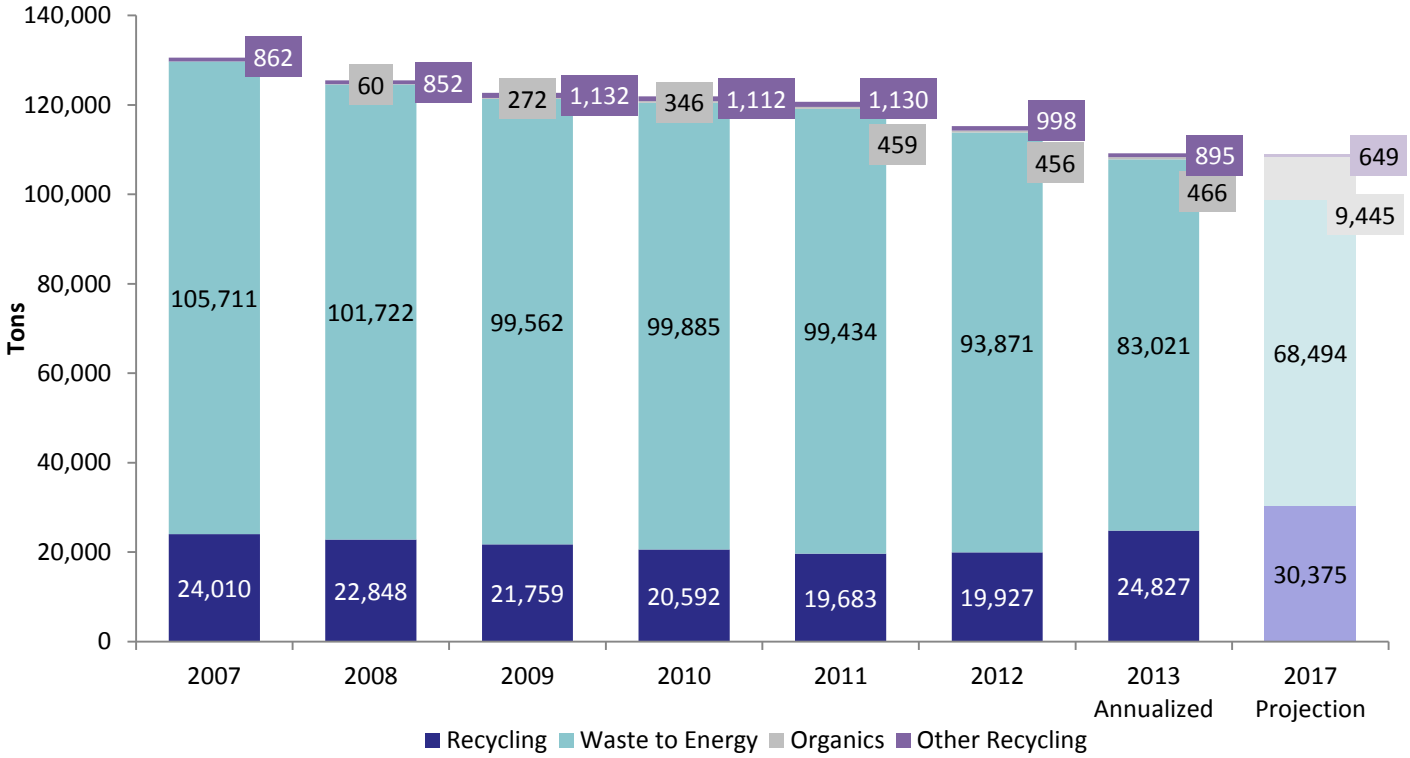
Staff have not received the appropriate data to share recycling rate comparisons of other nation-wide cities at this time. It is hopeful that the comparisons can be made included February Results Minneapolis session for Public Works Utilities.

Total Waste to Energy - Garbage Tons Collected Annually per Dwelling Unit and Citywide



Source: Solid Waste Information System

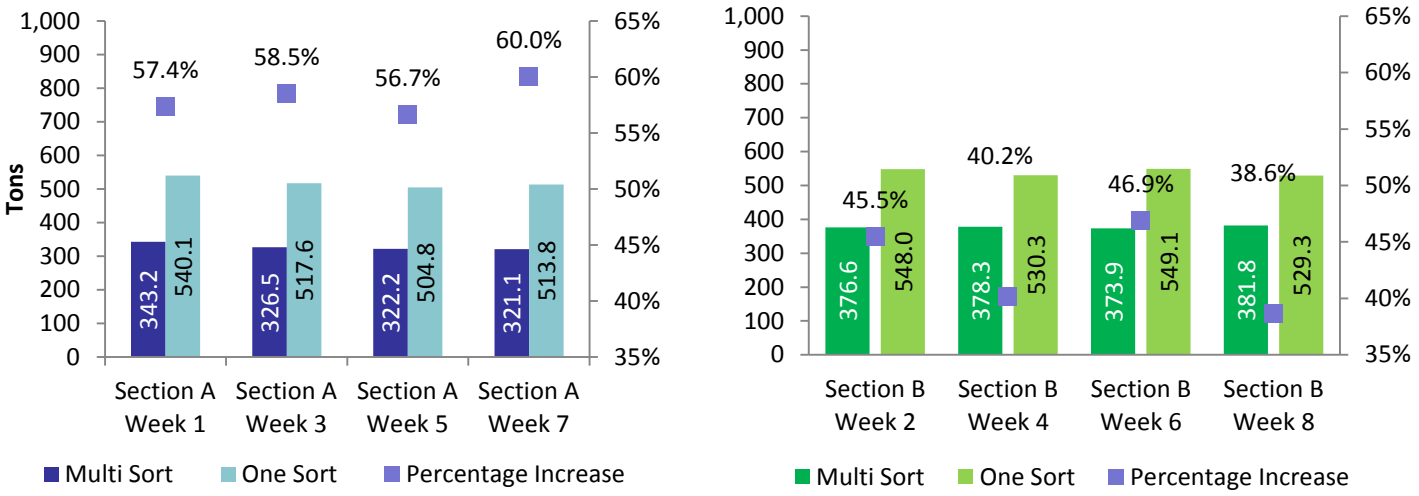
Collected Tons of Major Solid Waste Categories



Note: Most Solid Waste & Recycling services are reflective of services provided for only residential customers. That is for buildings with 4 or fewer dwelling units.

Source: Solid Waste Information System

Multi to One Sort Recycling



Notes:
1. "Section A" refers to the blue and "Section B" refers to the green on the Recycling Weeks map.
2. Comparison time period is July-August 2010 and July-August 2013

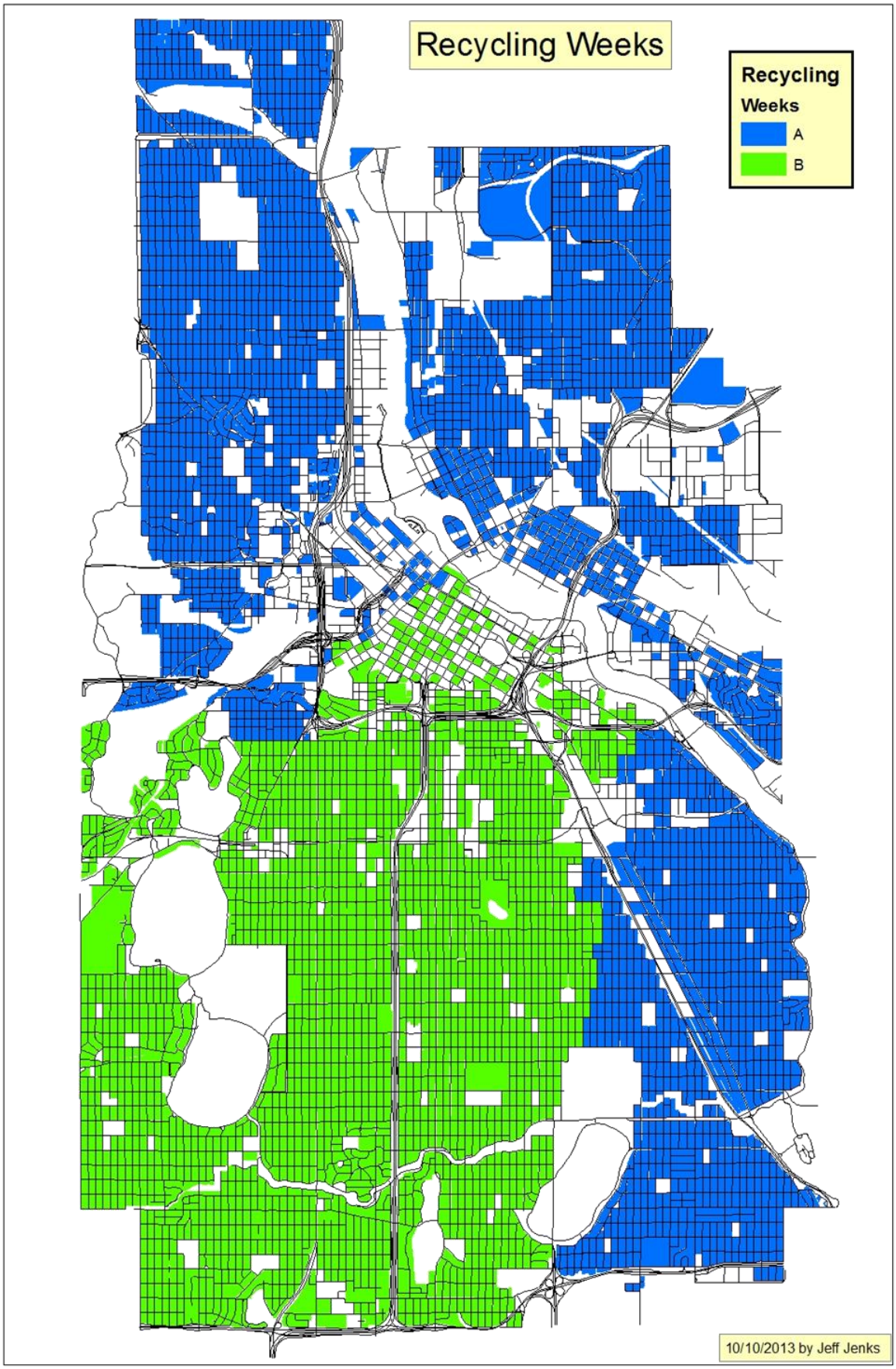
Why is this measure important?

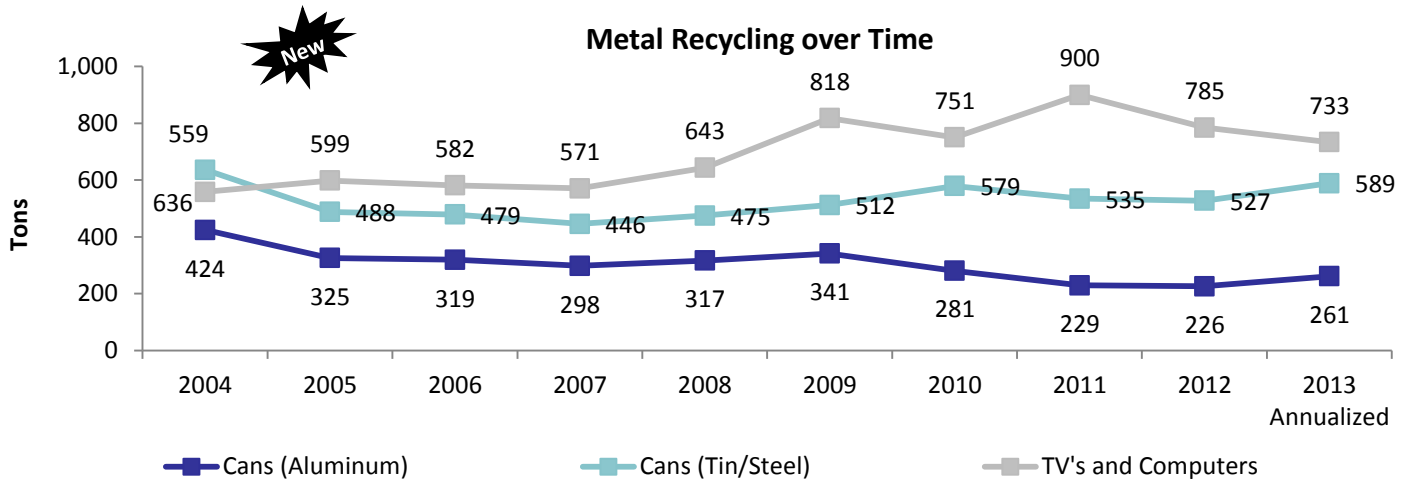
The dual-sort and single-sort recycling pilots conducted by Resource Recycling Systems showed that Minneapolis Solid Waste & Recycling could expect to see a 30-60 percent increase in weight of materials collected by implementing a dual-sort or one-sort program. The estimates made by the report were actualized in the first month of city-wide one-sort recycling.

The map on the next page shows the City of Minneapolis broken out into Section A and Section B. The sections designate the sections of the city that receive recycling collection on the same week. The chart above shows that the volume of recyclables collected in Section A has increased on average 58 percent by implementing one-sort recycling, whereas Section B of the city has collected a 42 percent average increase in volume of recyclables. One-sort recycling removed many barriers to participation which resulted in higher participation from residents who live in Section A of the city.

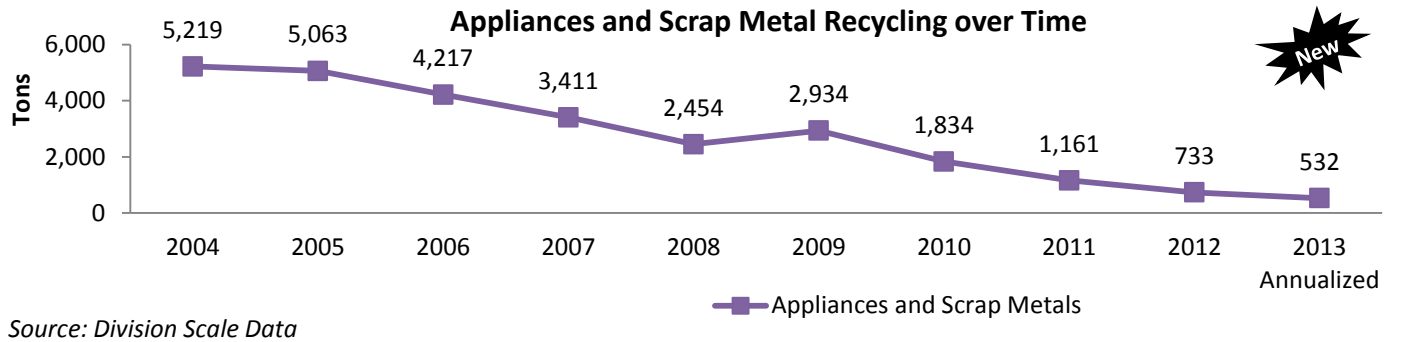
What will it take to make progress?

Data from Solid Waste & Recycling's Solid Waste Information System will allow weights of recyclables collected to be tracked all the way down to the individual route. Targeted educational efforts in the forms of direct mailings, recycling workshops and potential door-to-door campaigns will be used to educate residents in under-performing areas of all that can go in the one-sort cart and of the benefits of recycling.


Recycling Weeks
Recycling
Weeks
A
B
10/10/2013 by Jeff Jenks



Source: Republic Services and Waste Management Data



Source: Division Scale Data

Why is this measure important?

Many aluminum, steel and tin cans were scavenged with the old multi-sort system due to the convenience of picking up a single bag of the materials. The chart above shows some increase in aluminum, steel and tin cans due to the removal of sorting requirements and cans being loosely placed in the one-sort recycling carts. It is expected to that these materials will continue to rise in volumes collected.

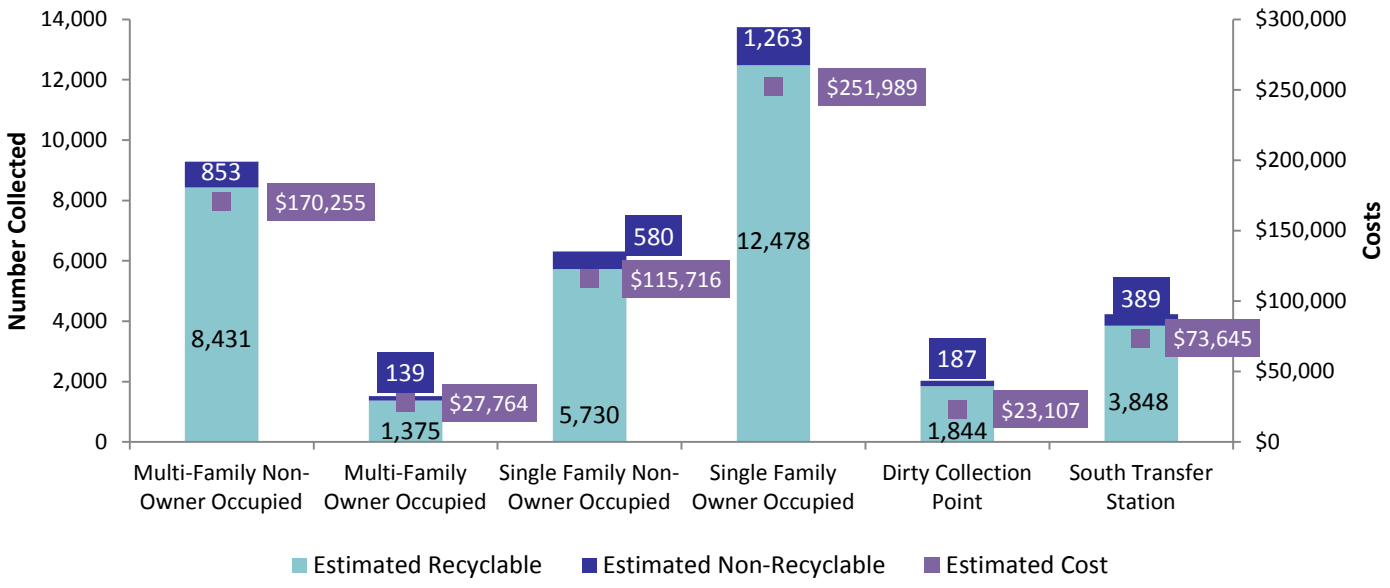
Scavenging of large recyclable items - known as Problem Materials (PM) - also occurs throughout the city. At this time it is unclear how many items noted by garbage collection crews are scavenged before the City's PM crew arrives to collect them the following day.

What will it take to make progress?

The new collection contract will require the City's contractor to utilize the same system that Minneapolis Solid Waste & Recycling crews utilize to track and pick up PM from resident collection points. This new collection data will be used to quantify the number of unnecessary trips made to collect PM that had been taken by scavengers or scrappers prior to crew arrival.

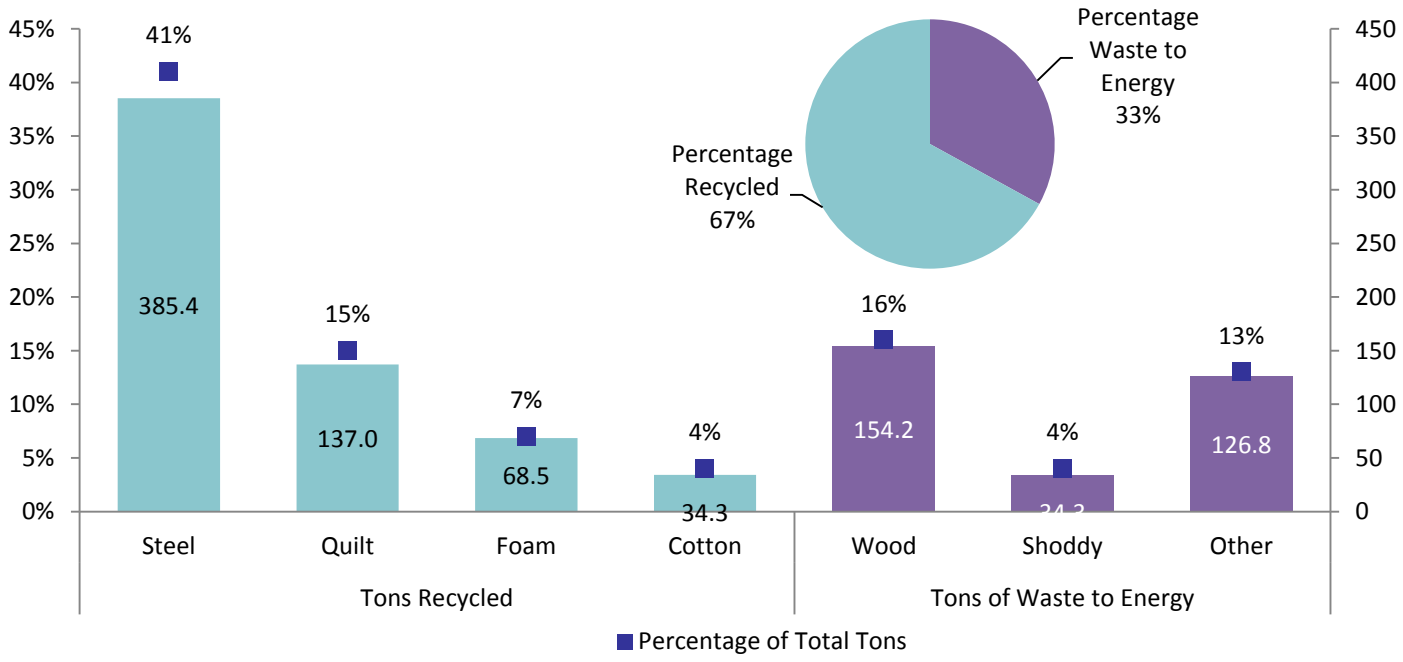
The wasted employee and truck time will be calculated against all other Problem Material expenses and revenues to determine if it is worthwhile to push for more stringent enforcement against the theft of items set out for City collection. Most importantly, the collection data will be used to determine an appropriate quantity of similar or same type items to be set out per household per year.

Mattress Collection Volume and Costs



Note: Time period = August 2012-August 2013
Source: PPL data and Solid Waste Information System data

End Market Commodity from Mattresses



Source: Solid Waste Information System

Narrative on next page…

Why are these measures important?
Minneapolis Solid Waste and Recycling began diverting mattresses and box springs from the waste to energy stream in 2011 through a pilot program. When the program went citywide in July 2012, we began closely tracking our costs and the benefits. A large benefit to the recycling process is the type of materials recycled and the quantity of those materials. Prior to the mattress and recycling program, hundreds of tons of recyclable material was burned at the waste to energy facility. Now, those items are recycled into packaging, carpet padding, and blue jeans.

How will we make progress?
Approximately 90 percent of the mattresses collected for recycling are actually recycled. The remaining 10 percent are non-recyclable and cost 150 percent more to process, per piece. While a portion of these mattresses will remain non-recyclable mattress, we can improve the percentage of non-recyclable mattresses by continuing to consistently enforce the recycling-week-only policy, reducing the number of days a mattress sits at a solid waste collection point prior to pick-up and, thus, reducing the chances of it becoming water-logged prior to collection.

Following the completion of the new collection contract, the contractor will follow the same process that Solid Waste & Recycling follows to accurately track the mattresses collected by housing address. The data will be used to determine an appropriate quantity of mattresses to be set out per household per year.

In the future, an additional per piece fee may be determined and applied to households that are proven to be abusing the mattress collection program. The fee will be used to off-set the expenses related the abuse and the cost to process and recycle a mattress.